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Isolation amplifier 1:1 without supply - 1 to 4 channel Type M2931

- 1 to 4 channel versions
- Without power supply
- 17.5mm case
- Plug-in terminals



Technical description

This "snap-on" interface module utilizes isolating amplifier channels to galvanically isolate DC current signals without a power supply.

The input current signal can be in the range of 0...27mA. This DC signal is converted to an AC signal, transformed 1:1 to the secondary, rectified and ripple rejected by a filter, thus restoring the original DC current signal.

The small 17.5mm case contains up to 4 separate isolating amplifiers. The output can be on a common mode voltage or on different ground and may feed remote displays, recorders, PLC's analog input, computers and data loggers.

Applications:
Heating, air conditioning, signal isolation, data logging applications etc.

Technical Data:

Input

Input current (I_E): 0...5mA, 0...20mA, 4...20mA, max. 27mA
 Max. input current: 50mA with open output
 Max. input voltage (U_E): +20V
 Max. voltage drop: 3,7V

Output

Current transfer ratio (I_E : I_A): 1,0 : 1,0
 Max. load: 500
 Load error: Typ. 0,1%
 Output ripple: 0,9% ($R_L=280 \Omega$, $I_A=20mA$, $f=3,5kHz$)
 Rise time: Typ. 75ms
 Working temperature range: -10...+60°C (max. $\pm 0,1\%/20mA$)

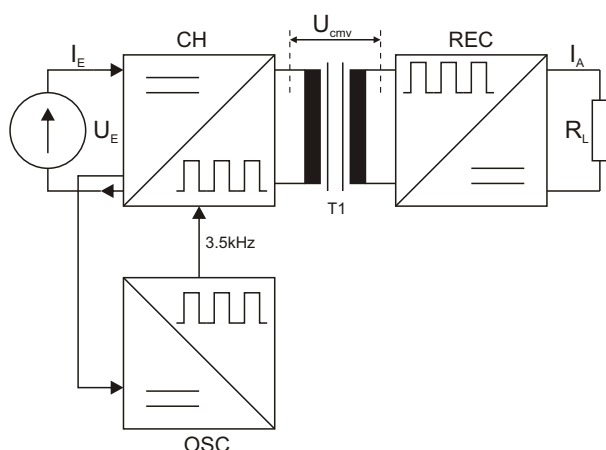
Coupling

Internal oscillator: Typ. 3,5 kHz
 Max. common mode voltage (U_{cmv}): 230VAC RMS, Testvoltage: 2500Veff /1'.
 Operating Principle: The input signal is chopped with 3.5kHz, transformed from the primary to the secondary by a transformer, rectified and filtered. (see block diagram)
 Supply current: None, will be drawn out of the primary signal
 CE-Conformity: fulfilled

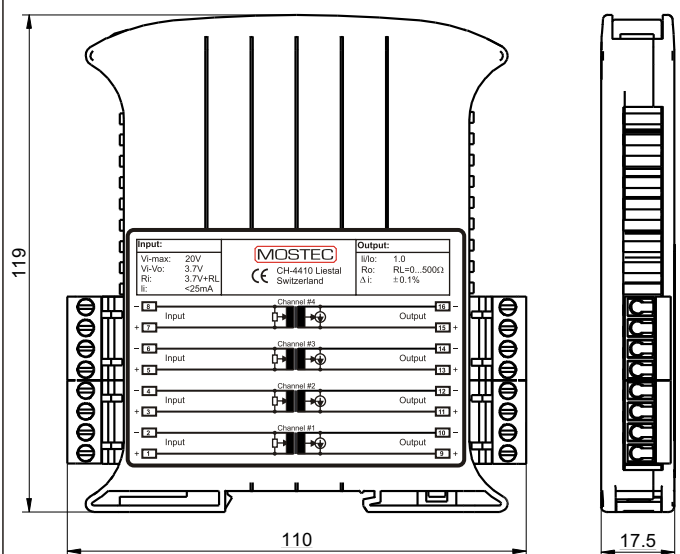
Mechanical specifications

Terminals: 12 screw terminals
 Terminal description: Channel1: Input (+) = 1 Input (-) = 2 Output (+) = 9 Output(-) = 10
 Channel2: Input (+) = 3 Input (-) = 4 Output (+) = 11 Output(-) = 12
 Channel3: Input (+) = 5 Input (-) = 6 Output (+) = 13 Output(-) = 14
 Channel4: Input (+) = 7 Input (-) = 8 Output (+) = 15 Output(-) = 16
 Dimensions: W x H x D = 17.5 x 119 x 110mm
 Mounting: 35mm mounting rail, EN50022-35
 Weight: 130 g
 Warranty: 2 years
 How to order: m2931-3 (3 channel)
 m2931-4 (4 channel)
 m2931-1 (1 channel) optional, only on request
 m2931-2 (2 channel) optional, only on request

Diagram:



Dimensions:



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